```
LLL              IIIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR   TTTTTTTTTTTTTTT   LLL
LLL              IIIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR   TTTTTTTTTTTTTTT   LLL
LLL              IIIIIIIIII   BBBBBBBBBBBB   RRRRRRRRRRRR   TTTTTTTTTTTTTTT   LLL
LLL                 III       BBB      BBB   RRR      RRR         TTT         LLL
LLL                 III       BBB      BBB   RRR      RRR         TTT         LLL
LLL                 III       BBB      BBB   RRR      RRR         TTT         LLL
LLL                 III       BBB      BBB   RRR      RRR         TTT         LLL
LLL                 III       BBB      BBB   RRR      RRR         TTT         LLL
LLL                 III       BBBBBBBBBBBB   RRRRRRRRRRRR         TTT         LLL
LLL                 III       BBBBBBBBBBBB   RRRRRRRRRRRR         TTT         LLL
LLL                 III       BBB      BBB   RRR   RRR            TTT         LLL
LLL                 III       BBB      BBB   RRR   RRR            TTT         LLL
LLL                 III       BBB      BBB   RRR      RRR         TTT         LLL
LLL                 III       BBB      BBB   RRR      RRR         TTT         LLL
LLL                 III       BBB      BBB   RRR      RRR         TTT         LLL
LLLLLLLLLLLLLLL  IIIIIIIIII   BBBBBBBBBBBB   RRR      RRR         TTT         LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL  IIIIIIIIII   BBBBBBBBBBBB   RRR      RRR         TTT         LLLLLLLLLLLLLLL
LLLLLLLLLLLLLLL  IIIIIIIIII   BBBBBBBBBBBB   RRR      RRR         TTT         LLLLLLLLLLLLLLL
```

```
LL            IIIIII    BBBBBBBB      CCCCCCCC  HH      HH    AAAAAA     RRRRRRRR
LL            IIIIII    BBBBBBBB      CCCCCCCC  HH      HH    AAAAAA     RRRRRRRR
LL              II      BB      BB    CC        HH      HH   AA      AA  RR      RR
LL              II      BB      BB    CC        HH      HH   AA      AA  RR      RR
LL              II      BB      BB    CC        HH      HH   AA      AA  RR      RR
LL              II      BBBBBBBB      CC        HHHHHHHHHH   AA      AA  RRPRRRRR
LL              II      BBBBBBBB      CC        HHHHHHHHHH   AA      AA  RRRRRRRR
LL              II      BB      BB    CC        HH      HH   AAAAAAAAAA  RR  RR
LL              II      BB      BB    CC        HH      HH   AAAAAAAAAA  RR  RR
LL              II      BB      BB    CC        HH      HH   AA      AA  RR    RR        ....
LL              II      BB      BB    CC        HH      HH   AA      AA  RR    RR        ....
LLLLLLLLLL    IIIIII    BBBBBBBB      CCCCCCCC  HH      HH   AA      AA  RR      RR       ....
LLLLLLLLLL    IIIIII    BBBBBBBB      CCCCCCCC  HH      HH   AA      AA  RR      RR       ....

LL            IIIIII        SSSSSSSS
LL            IIIIII        SSSSSSSS
LL              II        SS
LL              II        SS
LL              II        SS
LL              II        SS
LL              II          SSSSSS
LL              II          SSSSSS
LL              II                SS
LL              II                SS
LL              II                SS
LL              II                SS
LLLLLLLLLL    IIIIII        SSSSSSSS
LLLLLLLLLL    IIIIII        SSSSSSSS
```

```
   1    0001  0  MODULE LIB$CHAR (
   2    0002  0
   3    0003  0          IDENT = '1-007'              ! File: LIBCHAR.B32 Edit: RKR1007
   4    0004  0
   5    0005  0              ) =
   6    0006  1  BEGIN
   7    0007  1  !
   8    0008  1  !****************************************************************************
   9    0009  1  !*                                                                          *
  10    0010  1  !*    COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                *
  11    0011  1  !*    DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                 *
  12    0012  1  !*    ALL RIGHTS RESERVED.                                                   *
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  18    0018  1  !*    OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY  *
  19    0019  1  !*    TRANSFERRED.                                                           *
  20    0020  1  !*                                                                          *
  21    0021  1  !*    THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE  *
  22    0022  1  !*    AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT  *
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  24    0024  1  !*                                                                          *
  25    0025  1  !*    DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS  *
  26    0026  1  !*    SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                *
  27    0027  1  !*                                                                          *
  28    0028  1  !*                                                                          *
  29    0029  1  !****************************************************************************
  30    0030  1  !
  31    0031  1
  32    0032  1  !++
  33    0033  1  ! FACILITY:  General Library Support
  34    0034  1  !
  35    0035  1  ! ABSTRACT:
  36    0036  1  !
  37    0037  1  !       Return a byte-length integer (FORTRAN INTEGER*1) as a
  38    0038  1  !       one-character string.
  39    0039  1  !
  40    0040  1  ! ENVIRONMENT:  VAX-11 User Mode
  41    0041  1  !
  42    0042  1  ! AUTHOR: Tomas N. Hastings, 06-AUG-1977
  43    0043  1  !
  44    0044  1  ! MODIFIED BY:
  45    0045  1  !
  46    0046  1  ! 1-001 - Update version number and copyright notice.  The edit number
  47    0047  1  !         on version 0 was 3.  JBS 16-NOV-1978
  48    0048  1  ! 1-002 - Add " " to PSECT directives.  JBS 21-DEC-1978
  49    0049  1  ! 1-003 - Translate to BLISS and handle a dynamic result string
  50    0050  1  !         correctly.  JBS 20-MAR-1979
  51    0051  1  ! 1-004 - Change LIB$S and OTS$S to STR$.  JBS 21-MAY-1979
  52    0052  1  ! 1-005 - Change call to STR$COPY.  JBS 16-JUL-1979
  53    0053  1  ! 1-006 - Use handler to translate error codes.  RW  22-Jan-1980
  54    0054  1  ! 1-007 - Redirect copy call from STR$COPY_R to LIB$COPY_R_DX6.  This
  55    0055  1  !         eliminates the need for a handler and the need to change
  56    0056  1  !         STR$ statuses to LIB$ statuses.
  57    0057  1  !         RKR 26-MAY-1981
```

LIB$CHAR
1-007

G 15
16-Sep-1984 00:39:10    VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:38:27    [LIBRTL.SRC]LIBCHAR.B32;1

Page 2
(1)

```
;   58      0058 1 !--
;   59      0059 1
;   60      0060 1 !<BLF/PAGE>
```

LIB$CHAR
1-007

H 15
16-Sep-1984 00:39:10   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:38:27   [LIBRTL.SRC]LIBCHAR.B32;1

Page 3
(2)

```
62     0061  1 !
63     0062  1 !  SWITCHES:
64     0063  1 !
65     0064  1
66     0065  1 SWITCHES ADDRESSING_MODE
67     0066  1                (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
68     0067  1
69     0068  1 !
70     0069  1 !  LINKAGES:
71     0070  1 !
72     0071  1 REQUIRE 'RTLIN:STRLNK';              ! Linkage to LIB$SCOPY_R_DX6
73     0256  1 !
74     0257  1 !  TABLE OF CONTENTS:
75     0258  1 !
76     0259  1
77     0260  1 FORWARD ROUTINE
78     0261  1     LIB$CHAR;                        ! Make a 1-char string
79     0262  1
80     0263  1 !
81     0264  1 !  INCLUDE FILES:
82     0265  1 !
83     0266  1
84     0267  1 REQUIRE 'RTLIN:RTLPSECT';            ! Macros for defining psects
85     0362  1
86     0363  1 !
87     0364  1 !  MACROS:
88     0365  1 !
89     0366  1 !     NONE
90     0367  1 !
91     0368  1 !  EQUATED SYMBOLS:
92     0369  1 !
93     0370  1 !     NONE
94     0371  1 !
95     0372  1 !  PSECTS:
96     0373  1 !
97     0374  1 DECLARE_PSECTS (LIB);                ! Declare psects for LIB$ facility
98     0375  1 !
99     0376  1 !  OWN STORAGE:
100    0377  1 !
101    0378  1 !     NONE
102    0379  1 !
103    0380  1 !  EXTERNAL REFERENCES:
104    0381  1 !
105    0382  1
106    0383  1 EXTERNAL ROUTINE
107    0384  1     LIB$SCOPY_R_DX6 : STRING_JSB;              ! Copy string
```

LIB$CHAR
1-007

I 15
16-Sep-1984 00:39:10    VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:38:27    [LIBRTL.SRC]LIBCHAR.B32;1

Page 4
(3)

```
109    0385  1  GLOBAL ROUTINE LIB$CHAR (                     ! Make a 1-char string
110    0386
111    0387  1          RESULT_STR,                          ! Descriptor of result string
112    0388  1          BYTE_INTEGER                         ! Byte to make up the string
113    0389
114    0390  1                      ) : =
115    0391
116    0392  1  !++
117    0393  1  ! FUNCTIONAL DESCRIPTION:
118    0394  1  !
119    0395  1  !        Return unsigned byte integer (FORTRAN INTEGER*1) as a
120    0396  1  !        one-character 8 bit ASCII string.  The range of the input
121    0397  1  !        integer is 0 to 255.  Since the output string is the first
122    0398  1  !        argument, this can be considered as either a subroutine with
123    0399  1  !        two parameters or a string function with one.
124    0400
125    0401  1  ! FORMAL PARAMETERS:
126    0402  1  !
127    0403  1  !        RESULT_STR.wt.dx          Address of the descriptor into which
128    0404  1  !                                  the one-character string is written.
129    0405  1  !        BYTE_INTEGER.rbu.r        The byte to put in that string.
130    0406
131    0407  1  ! IMPLICIT INPUTS:
132    0408  1  !
133    0409  1  !        NONE
134    0410
135    0411  1  ! IMPLICIT OUTPUTS:
136    0412  1  !
137    0413  1  !        NONE
138    0414
139    0415  1  ! COMPLETION CODES:
140    0416  1  !
141    0417  1  !        SS$_NORMAL      Procedure successfully completed
142    0418  1  !        LIB$_STRTRU     Success, but source string truncated
143    0419  1  !        LIB$_INSVIRMEM  Insufficient virtual memory
144    0420  1  !        LIB$_INVSTRDES  Invalid string descriptor
145    0421  1  !        LIB$_FATERRLIB  Fatal error in library
146    0422
147    0423  1  ! SIDE EFFECTS:
148    0424  1  !
149    0425  1  !        May allocate a little space for the result string.
150    0426
151    0427  1  !--
152    0428  1
153    0429  2      BEGIN
154    0430
155    0431  2      RETURN (LIB$SCOPY_R_DX6 (1, .BYTE_INTEGER, .RESULT_STR)) ;
156    0432  2
157    0433  1      END;                                      ! end of LIB$CHAR


                                                    .TITLE  LIB$CHAR
                                                    .IDENT  \1-007\

                                                    .EXTRN  LIB$SCOPY_R_DX6

                                                    .PSECT  _LIB$CODE,NOWRT,  SHR,  PIC,2
```

LIBSCHAR
1-007

J 15
16-Sep-1984 00:39:10    VAX-11 Bliss-32 V4.0-742
14-Sep-1984 12:38:27    [LIBRTL.SRC]LIBCHAR.B32;1

Page 5
(3)

```
                                  007C 00000          .ENTRY  LIB$CHAR, Save R2,R3,R4,R5,R6   ; 0385
               52      04  AC  D0 00002          MOVL    RESULT_STR, R2                  ; 0431
               51      08  AC  D0 00006          MOVL    BYTE_INTEGER, R1
               50          01  D0 0000A          MOVL    #1, R0
        00000000G  00  16 0000D          JSB     LIB$SCOPY_R_DX6
                          04 00013          RET                                     ; 0433
```

; Routine Size: 20 bytes,    Routine Base: _LIB$CODE + 0000

```
; 158     0434 1
; 159     0435 1 END                                                ! end of module LIB$CHAR
; 160     0436 1
; 161     0437 0 ELUDOM
```

;
;
;                      PSECT SUMMARY
;
;       Name                    Bytes                   Attributes
;
; _LIB$CODE                       20 NOVEC,NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)


;                      COMMAND QUALIFIERS
;
;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS$:LIBCHAR/OBJ=OBJ$:LIBCHAR MSRC$:LIBCHAR/UPDATE=(ENH$:LIBCHAR)

; Size:         20 code + 0 data bytes
; Run Time:        00:01.7
; Elapsed Time:    00:09.5
; Lines/CPU Min:   15514
; Lexemes/CPU-Min: 46437
; Memory Used:  21 pages
; Compilation Complete
```

RTLMACMAR
MAR

LIBASCEBC
LIS

LIBASTINP
LIS

RTLMACB32
REQ

STRMACROS
REQ

LIBBINTRE
LIS

RTLODBG
REQ

LIBDEF
FOR

LIBANASTR
LIS

LIBASNMBX
LIS

LIBBBCCI
LIS

LIBCHAR
LIS

LIBABUPCA
LIS

LIBADDX
LIS

RTLPSECT
REQ

SIGDEF
FOR

LIBASCTIM
LIS

LIBTABMAC
MAR

LIBATTACH
LIS

STRLNK
REQ

LIBA2EREV
LIS

LIBBBSSI
LIS

LIBCALLG
LIS

LIBCLICAL
LIS

LIBADDP
LIS